

was followed by less reaction than was expected, and after a few days there was a manifest improvement in his condition. His cough entirely ceased, the discharge diminished in quantity; he gained flesh, and in about six weeks, though the discharge still continued, he asked and obtained his discharge.

He was again seen about the middle of May, 1884. He was in very good general health, and had been working at his trade without inconvenience, still wearing the tube, through which there was a little discharge.

REPORT OF CASES OF SURGICAL AFFECTIONS OF JOINTS TREATED WITH LISTERIAN ANTISEPTIC PRECAUTIONS.

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SURGEON TO THE RADCLIFFE INFIRMARY.

1. *Popliteal Abscess Communicating with the Knee-Joint.* 2. *Wound of Knee-Joint; Suppuration; Free Drainage.* 3. *Osteotomy for Badly United Fracture of Tibia and Fibula (Pott's Fracture).* 4 and 5. *Two Cases of Fractured Patella, Treated by Suture; Removal of Loose Fragment from Joint in one of the Cases.*

The following form a series of cases recently under my charge in the Radcliffe Infirmary, Oxford. The first is one of suppuration in the knee-joint, bursting into the popliteal space, in which position it was opened and drained by counter openings through the joint.

The second case is also of suppuration in the joint, caused by a wound of the synovial membrane. It was evidently septic when the joint was opened, and instead of syringing the cavity with the usual 1-20 solution of phenol, I used a solution

of corrosive sublimate. From this and similar cases I am inclined to think it a more effectual agent than the former.

The third case, osteotomy for badly united fracture of tibia and fibula, where a portion of the inner malleolus was excised, and a very marked deformity thereby removed, a useful limb and moveable joint resulting.

The fourth and fifth were cases of fracture of the patella, in which the fragments were united by wire sutures, the result being perfect movement of the joints and firm bony union of the bones.

Case 1. *Popliteal abscess communicating with the knee-joint.* A man, aged 43, by trade a navvy, was admitted into the infirmary on Sept. 10, 1884. The history was one apparently of chronic synovitis of the left knee of about a year's duration. He had been in a hospital for four months, and was relieved so far as to be able to get about and do his work for a few weeks. The joint then again became swollen and painful, and he entered another hospital. When admitted to the Radcliffe Infirmary there was a considerable amount of fluid in the joint, and also a separate collection (as it seemed) in the popliteal space, the skin over which was cedematous and inflamed. The urine contained a trace of albumen. The temperature was high.

On the third day after admission an incision was made with antiseptic precautions into the abscess behind, and as it was found to communicate with the joint, two other incisions were made on each side of the patella and a large drainage-tube passed through, another tube being inserted into the first opening. No dead bone was felt nor any erosion of the cartilages. The temperature on the evening of the operation was 101.8° . The knee was dressed on the following day. Morning temperature, 100.5° ; evening 103° . On the second day after operation morning temperature normal; evening temperature, 102.4° . The dressings were changed on the 4th, 5th and 6th days, and after that at intervals of two or three days. On the 4th day morning temperature was 97.8° ; evening, 98° . He had but little pain, and there was only a moderate amount of quite sweet discharge. One of the drainage-tubes was removed ten days after the operation, when the discharge was much less. By Oct. 17 (five weeks after operation) the wounds were quite superficial, and there was a little movement in the joint. The patient left the hospital in December, wearing a Thomas splint. He has now free movement of the joint, almost to a right angle, but not further than this, owing to thickening of the tissues, the result of the long continued inflammation.

Case 2. *Wound of knee-joint ; suppuration ; free drainage.* A boy, aged 8, on January 13 received an injury in his knee by a rusty nail running into the thigh, just above the patella. Two days later the joint became swollen and painful. On admission a fluctuating swelling was found above the patella and some fluid in the joint. The tissues round the joint were also swollen.

On Jan. 20 an incision was made into the abscess and a quantity of pus let out. It did not appear as if there was any communication with the joint. The boy suffered considerable pain still in the knee, and the temperature kept higher, being 102.5° and 102° at night.

On Jan. 17 an abscess appeared about the middle of the outer side of the thigh. This was opened, and was found to be the upper extremity of the synovial pouch of the knee; a counter opening being made at the inner side of the joint, a large drainage-tube was passed through. The cavity of the abscess was thoroughly irrigated with two gallons of a solution of corrosive sublimate (1-1000). The result of this operation was at first to lower the temperature to 99° at night. On the next day it was 99.6° in morning, 100.5° in evening. The knee was dressed the same night and on the next day. There was considerable discharge. The temperature kept high, being usually 99° in the morning and 101.5° in evening till Feb. 3, then it remained 100° in the evening till Feb. 10, after which it was normal. The knee was dressed every third or fourth day. There is a very fair amount of movement now, three months after the operation.

Case 3. *Operation for badly united fracture of tibia and fibula.* (Potts). Patient a man, aged 42, on September 11, 1884, he fractured both bones of the leg through the internal malleolus. The foot was so much displaced outwards that it was necessary to divide the tendo-Achilles to reduce it. The man had delirium tremens afterwards, and owing to this and other causes a considerable amount of deformity was left. The foot turned outwards, and the sharp point of the tibia was very close to the skin on the inside. On October 10 a vertical incision was made over the internal malleolus, and a wedge-shaped piece of bone removed, subperiosteally, the lower part of which was the articular surface of the tibia, the ankle joint being thus opened. The small lower fragment of the malleolus was covered by granulations and was left *in situ*. The fibula was refractured.

The temperature after the operation never rose above 99° . By November 18 the wound was healed. There was a small amount of movement in the ankle joint, which became by degrees more free. In January the movement was good. At the end of three weeks the joint

was put into plaster of Paris, and after another three weeks passive movement of the joint was commenced.

Case 4. *Operation for fractured patella.* The patient was a man, aged 24, admitted April 1, 1884, having fallen on the right knee, causing a comminuted fracture of the patella. When the swelling in the joint had subsided, the bone was found to be broken into several pieces, the upper one of which was projecting vertically into the joint and could not be replaced. Under these circumstances an operation was thought advisable. This was performed a fortnight after admission. When the joint was opened the patella was found to be broken into seven pieces, one of which, chipped off from its posterior surface, was lying free in the cavity. This and some of the smaller pieces were removed, leaving four larger fragments, of which the upper and lower on the same side were wired together, no transverse wire being needed to keep them in place. After the operation the joint remained distended for several days, but the discharge was very moderate. At the end of a week all the drainage-tubes but one were removed. There was no purulent discharge. All the stitches were removed five days later, and the remaining tube taken out at the end of the fortnight. On May 5 a Thomas' splint was applied and the patient was able to get about on a patten. Early in June some movement was noted in the joint, and the splint was left off. When he left the infirmary the knee could be flexed about two-thirds of its normal distance, then coming suddenly to a stop. He could walk well.

Case 5. *Operation for fractured patella.* A man, aged 45, three weeks before admission slipped and injured the knee, though the fracture was not at first detected. A transverse fracture of the patella was found, with an interval of an inch and a half. There was only a moderate amount of effusion. On July 18, 1884, a longitudinal incision was made over the front of the knee, and the fragments wired together by two strong silver wires. At first a single median wire was put in, but the patient suddenly flexed his leg when the operation was just over, causing the wire to tear out, necessitating a repetition of the whole process. Drainage tubes were introduced on each side into the joint; a wooden back splint was used. One of the tubes was taken out on 25th, the other a few days later. In three weeks the wounds were healed, and by the end of August there was a little movement in the joint. Before he went out the patient was able to walk and the movement was fairly good.

In both these cases the wire was left in the bone.